



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/890,348	03/04/2002	Gaelle Chauvelon	001K US 3808	1888

466 7590 07/15/2003

YOUNG & THOMPSON  
745 SOUTH 23RD STREET 2ND FLOOR  
ARLINGTON, VA 22202

EXAMINER

KRISHNAN, GANAPATHY

ART UNIT	PAPER NUMBER
----------	--------------

1623

DATE MAILED: 07/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/890,348

Applicant(s)

CHAUVELON ET AL.

Examiner

Ganapathy Krishnan

Art Unit

1623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 and 5-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All   b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 1623

### **DETAILED ACTION**

The Amendment B filed April 18, 2003 has been received, entered into the record and carefully considered. The following information provided in the amendment affects the instant application:

1. Amendments to the specification at page 1, line 16 and page 6, line 1.
  2. Claims 1-3, 5-8, 12, 13 and 16 have been amended.
  3. New claims 23-25 have been added.
  4. Claim 4 has been cancelled.
  5. Remarks drawn to rejections under U.S.C. 112 second paragraph and U.S.C. 103.
- Claims 1-3, 5-25 are pending.

### ***Claim Objections***

Claim 2 is objected to because of the following informalities: The term "during" should be replaced with the term "in". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

The rejections under USC 112 second paragraph made in the previous office action have been overcome. New rejections are made as contained herein below.

Art Unit: 1623

Claims 1-3 and 5-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites, "cellulose sulfoacetates derivatives". It is not clear if the cellulose sulfoacetates is referred to by the term derivative or if the product produced in the process is a derivative of cellulose sulfoacetates. Either the term derivative should be removed or the claim should be reworded to clearly state what is meant in this and any such occurrence in other claims. Claim 1 also recites the term cellulose material. It is not clear if this recitation means cellulose itself or any material containing cellulose. This should also be reworded or the term material should be removed in this any other such occurrences.

Claim 3, step (v) recites the term optionally. It is not clear what optionally generated cellulose triacetate means. Either the triacetate is generated in the process or it is not. The term optionally conveys the meaning that it is generated if needed. In claim 9, it is not clear if the term chosen modifies acetic anhydride or the quantity. The term chosen should be removed. The same recitation appears in claims 10 and 11.

Claims 12, 24 and 25 recite, "starting cellulose material consists of cellulose residues purified from co-products". It is not clear what this recitation means. The term co-products is vague. The recitation also conveys the meaning that cellulose material also consists of material other than just cellulose residues.

In claim 16 it is not clear if the rest of the carbons in the anhydroglucose are acetylated or not.

Art Unit: 1623

In Claim 19 the term salts is broad and is not clear what salts are encompassed by the term.

Claims which depend from rejected base claims that are indefinite are also indefinite..

***Claim Rejections - 35 USC § 103***

Claim 1-4, 6, 7, 9-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanghe et al ("Methods in Carbohydrate Chemistry", 1963, vol. III, 193-195) in combination with, Hiatt et al (USPN 3,075,962), Tunc et al (USPN 4,005,251) and Araki ("Acetylation of Cellulose, I. The Mechanism of Acetylation and The Properties of The Intermediate Products", Journal of the Society of Chemical Industry, 1940, vol. 48 (2), 99 49B-52B, English Translation) is being maintained for reasons of record.

Applicant's arguments have been considered but not found to be persuasive.

Applicants argue that Tanghe et al perform the acetylation reaction with about 8.52 moles of acetic anhydride, which is a large excess, which is the reason why cellulose triacetate molecules are formed. In contrast the instant process uses the non-excess amounts of 3 to 7 moles of acetic anhydride per mole of anhydroglucose. This range is fairly close to that used by Tanghe and is also a large excess. The process steps used in instant claim 1 is seen in the process of Tanghe et al. except that the moles of acetic anhydride used is slightly less than that used in Tanghe. Moreover, Tanghe et al (page 199, second full paragraph) states that the triacetate ester may be hydrolyzed without isolation, meaning that the triacetate even though formed can be removed without having to resort to hydrolysis. The 3 to 7 moles excess of acetic anhydride used in the instant

Art Unit: 1623

process and conditions, especially in Claim 1, is seen to yield the same sulfoacetate product as instantly obtained with isolation of the triacetate without having to perform a further step of hydrolyzing it.

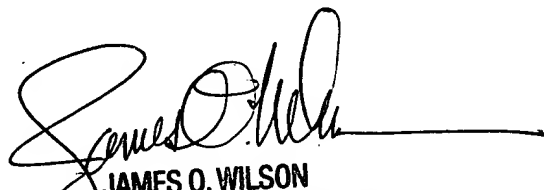
Tunc's disclosure even though a two step method according to the applicants, is useful as a guide for adjusting the pH and the amount of acetic anhydride in order to manipulate the acetylation and sulfation degree. This in combination with Araki's disclosure of reaction time and temperature is useful as a guide in adjusting the amount of acetic anhydride and process conditions.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ganapathy Krishnan whose telephone number is 703-305-4837. The examiner can normally be reached on 8.30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James O. Wilson can be reached on 703-308-4624. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3014 for regular communications and 703-305-3014 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1235.

GK  
July 11, 2003



**JAMES O. WILSON**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 1600**